LIGHTNING POLICY

This includes every situation where pupils are outdoors.

Policy Guidance for staff

- During any incidence and/or thunder, a member of staff, together with any pupils/one in their charge, must immediately seek shelter indoors.
- If the centralized detection system ("CDS") detects lightning and/or thunder, an alarm/siren will be projected for 15 seconds (audible throughout the whole campus) along with warning lights that are located at three different locations around the campus. This signals that no outdoor activity should be taken or if students are outside then shelter should be taken immediately.
- The CDS will continue to flash warning lights until it is clear to resume outdoor activities. The system will provide three 5 second alarms/sirens and the warning lights will stop flashing to signal when it is safe to resume outdoor activities. At this time, staff will communicate with students when they should resume outdoor activities.

Pre-emptive Safety

Outdoor events and sport practice will be risk assessed by ECiM staff and if it is determined there is a risk of harm, ECiM shall have the absolute authority and discretion whether to proceed or otherwise. ECiM will assess this carefully and if a decision is made to proceed, control measures may be put in place in accordance with this lightning policy.

The safety information described in this document will be disseminated to all organisers in order for them to be aware of potential dangers and to minimise the risk of injury.

In case of an event or outdoor sport practice, the local weather for the day, from before the activity to the end of play, will be monitored online by the event organisers.

Epsom College in Malaysia is equipped with a CDS. This system monitors atmospheric conditions to predict when lightning could strike and detects lightning strikes in a radius of 12 miles. If there is lightning detected inside a 12 mile radius then all outdoor activity will not be allowed to continue (see guidelines below on radius). The system is equipped with an alarm/siren - when the alarm/siren goes off, the system will project a siren for 15 seconds and warning lights will flash. If no lightning is detected within 30 minutes then three short 5 second sirens will indicate that the outdoor area is safe.

Notwithstanding the aforesaid, it is very important that guidance for resumption is ultimately conveyed by an authorised member of staff.

The CDS is operable at the following times:

Monday to Saturday: 7 am - 10 pm
Sunday: 8 am - 10 pm

In the highly unlikely event that the CDS fails to detect lightning then ECiM staff will resort to the "Flash-to- Bang" method explained below.

Guidelines on radius - The average stroke of lightning is 6 miles long, and because thunderstorms can move at speeds of up to 25mph or more, there is immediate danger anytime there is detected lightning activity within 8-10 miles of your location. ECiM policy dictates a 12 mile radius.

Seeking shelter

- Upon hearing the 15 second siren/alarm or seeing lightning, staff must immediately clear the area. This includes staff acting in their own personal capacity.
- Ideally, all staff, spectators and students seek shelter inside a large building. If on College grounds, return immediately to the school building. Staff and students should avoid taking baths or showers.
- The inside of a car or bus is a safe place to be in a storm, lightning will spread over the metal of the vehicle before earthing to the ground through the tyres. If possible move the vehicle to less exposed ground.
- Where possible, do not shelter beneath tall or isolated trees, it has been estimated that one in four people struck by lightning in the UK are sheltering under trees.
- Do not shelter under sunshades or awning – go into a solid building.
- If you are on water, take staff and students to the shore and off wide, open beaches as quickly as possible as water will transmit strikes from further away. Studies have shown that proximity to water is a common factor in lightning strikes.
- If you are exposed to the elements with nowhere to shelter, make yourself as small a target as possible by crouching down with your feet together, hands on knees and your head tucked in. This technique keeps as much of you off the ground as possible but is a last resort.

Individual safety

- Before you set off for your day/trip, check the weather forecast. If there are storms predicted, think about doing something less exposed, or being somewhere that provides appropriate shelter nearby. Thunderstorms occur year-round in Malaysia.
- When choosing a picnic or campsite try to choose a site where the group is not the highest point. In a storm, if you remain in your tent, try not to get too close to poles or other metal objects, although it is advisable to move into a solid building instead.
- Be aware of objects that can conduct or attract lightning, for example, golf clubs, hockey sticks, paddles, umbrellas, bicycles, wire fencing and rails.
- Seek shelter quickly if your hair begins to stand on end and nearby appliances begin buzzing - it may mean lightning is about to strike.
- Inside a building lightning can be conducted through television aerials, piping or other wires. Except in cases of emergency, don't use your landline telephone until the storm is over.

Event organisers

Events must be risk assessed, and if it is determined that there is a risk of harm, the Event organizer must assess this carefully and if a decision is made to proceed, control measures may be put in place in accordance with this lightning guidance.

Consider/implement the following recommendations:

- Communicate to everyone on site, the procedure upon hearing the siren/alarm and when outdoor activities can be resumed.
- Define and list safe structures and locations. Safe structures can include a large/substantial building with plumbing and wiring that will conduct lightning to the ground such as a clubhouse, or fully enclosed metal vehicles including buses.
- If lightning is seen but not detected then shelter immediately and use the 30/30 rule (see below) as the criteria for the resumption of the activity.
- Ensure the dissemination of information – students, officials, spectators, and staff must be aware of potential dangers and how to minimise the risk of injury.

Resumption of the activity

Once activities or events have been suspended, the event organisers or staff will use discretion in declaring return to participation. The guidance for this is provided by the system or it is recommended to wait at least 30 minutes after the last signal by the lightning metre of activity within 8-20 miles or the last visible strike before resuming activity. During the period of time when the CDS is on, the staff member in charge of that activity is expected to, wherever possible, try to provide alternative activities in the sports center for the group.

Risk Information

30-50 people are killed by lightning each year in Malaysia; this is 10 to 20 times higher than lightning related deaths in the UK. There are 180-260 thunderstorm days typically in Malaysia each year, compared with 8-10 in the UK.

Those most at risk are those who are outdoors often, exposed in vulnerable, unsheltered locations, for example: team sports on a pitch, golfing, hiking, swimming, rock climbing, sailing or kayaking, camping, grounds maintenance/gardening.

Research has shown that proximity to water increases the risk of being struck by lightning. The time at which one is most at danger is when there is underestimation of the likelihood of being hit, for example before the storm or when you think it is over.

There are three different ways of being struck by lightning:

1. Direct strike: the lightning hits you and goes to earth through you.
2. Side Flash: the lightning hits another object and jumps sideways to hit you.
3. Ground strike: the lightning strikes the ground then travels through it hitting you on the way.

"Flash to Bang": is the storm coming towards you?

To check if a storm is coming or going from where you are standing apply the flash to bang principle, counting as soon as the lightning flash is seen until the thunder is heard. 'Flash to bang' is based on the following facts:

1. Sound travels at 330 meters per second or at 1 km in 3 seconds (approximately 1 mile every 5 seconds).
2. Light travels at 300,000 km per second.
3. Lightning will always be seen before thunder.

To calculate the distance between yourself and the storm, divide the number of seconds by 3 to find the distance in kilometres.

If the distance between the thunder and lightning increases over a couple of strikes, the storm is moving away from you. If it decreases, it is coming towards you.

Research shows that people struck by lightning are predominantly hit before and after the peak of the storm. This means that you should be thinking about the proximity of the lightning, not the occurrence of rain. The 30/30 rule provides a good way of ensuring one is sheltering during the most risky parts of the storm. It proposes that if the flash to bang is 30 seconds in length or less you should seek shelter. Staying inside this shelter is advised until 30 minutes past the last clap of thunder. This ensures that any distant strikes at the beginning of the storm (lightning can travel up to 10 miles), or trailing storm clouds at the back of the storm do not take anyone by surprise.